

FIG. 1

FIG. 1

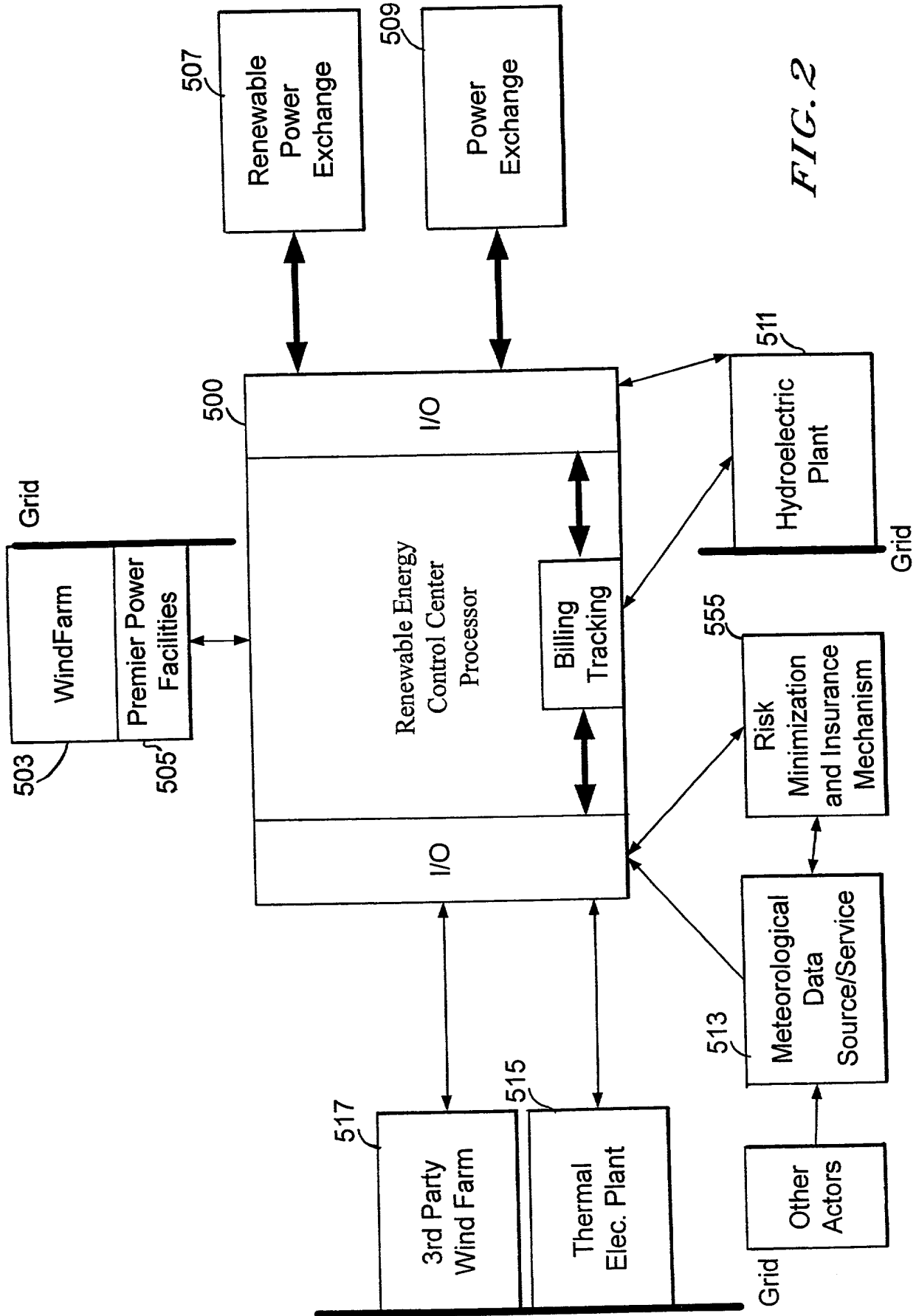


FIG. 2

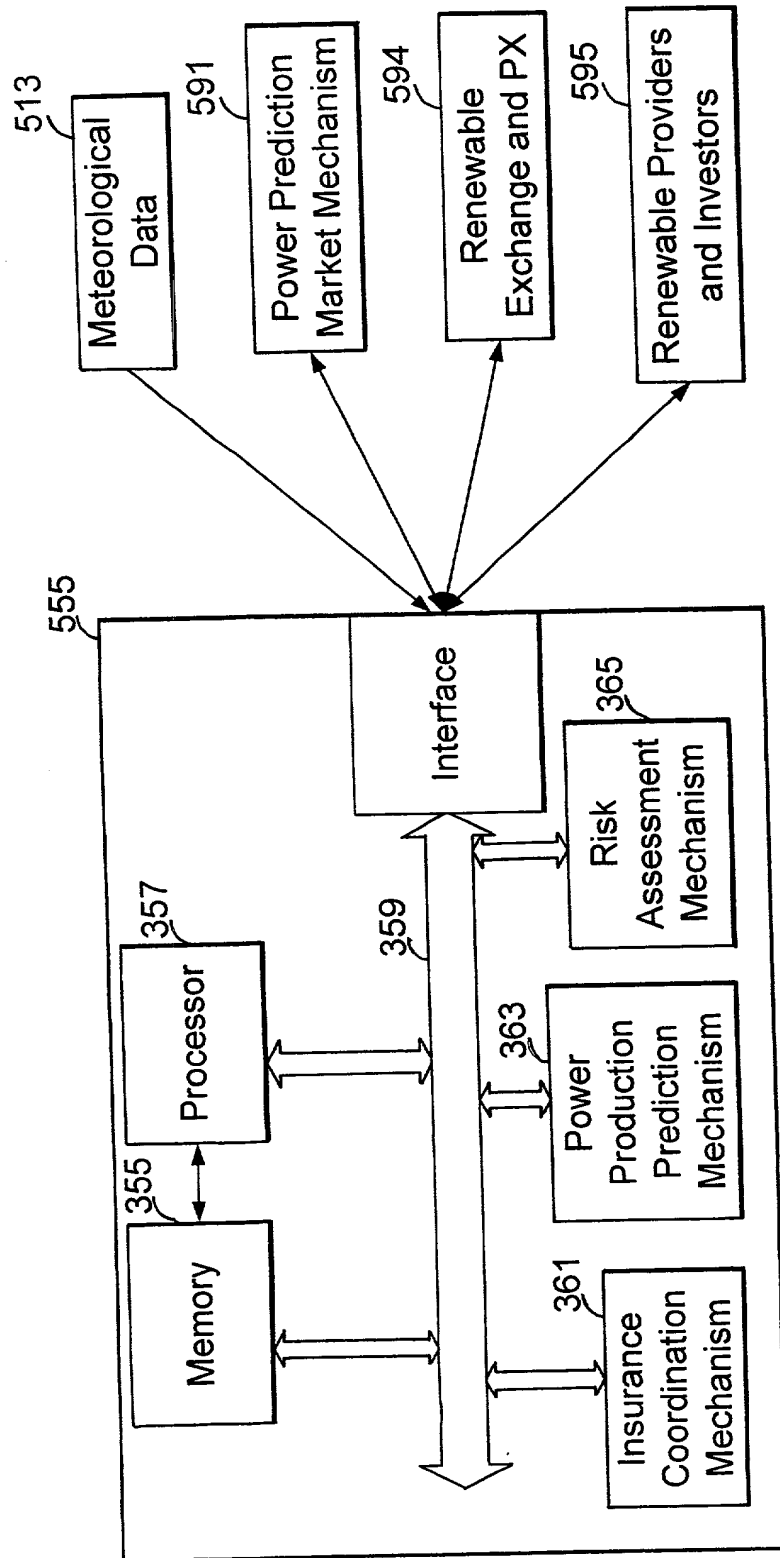


FIG. 3

FIG. 3

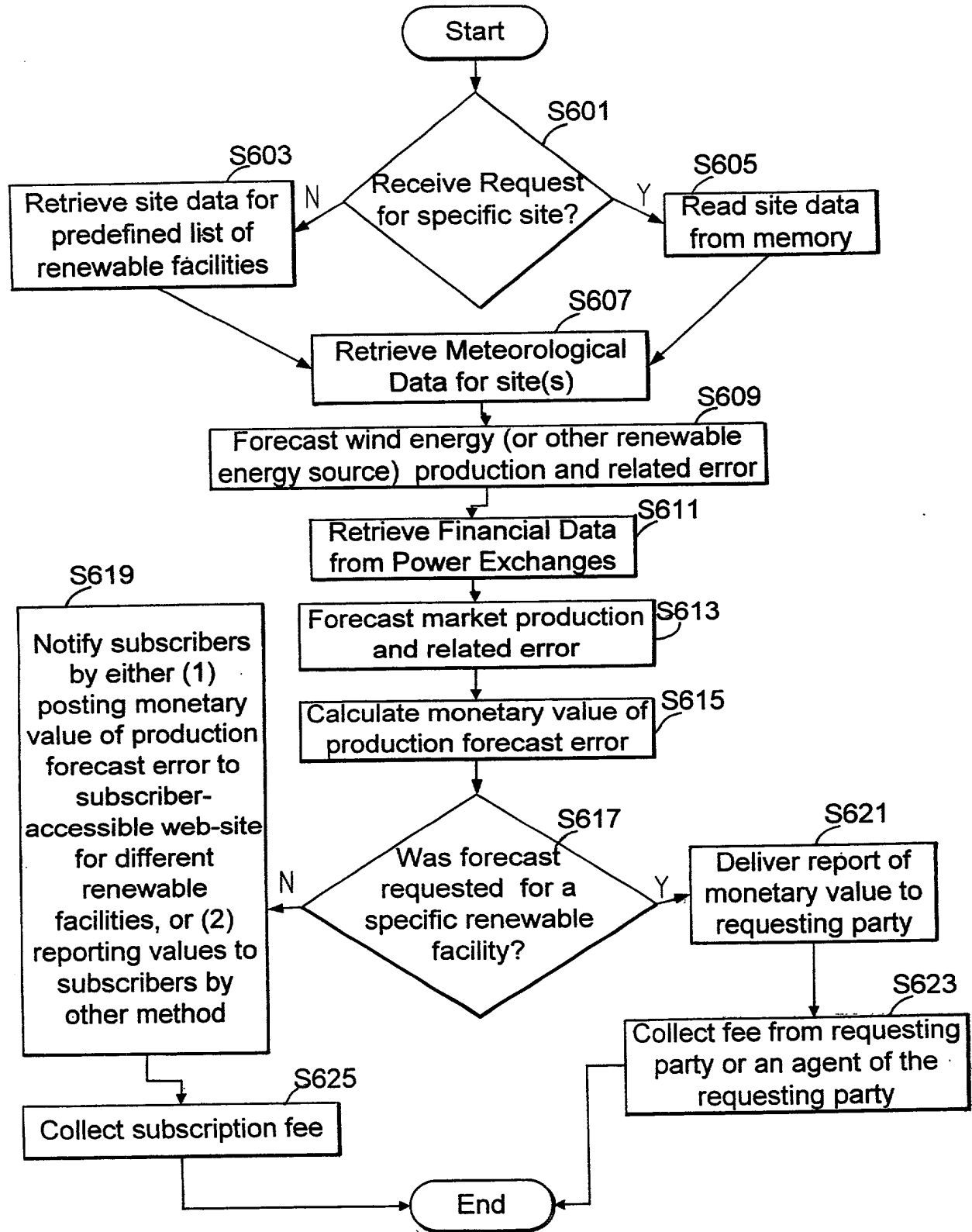
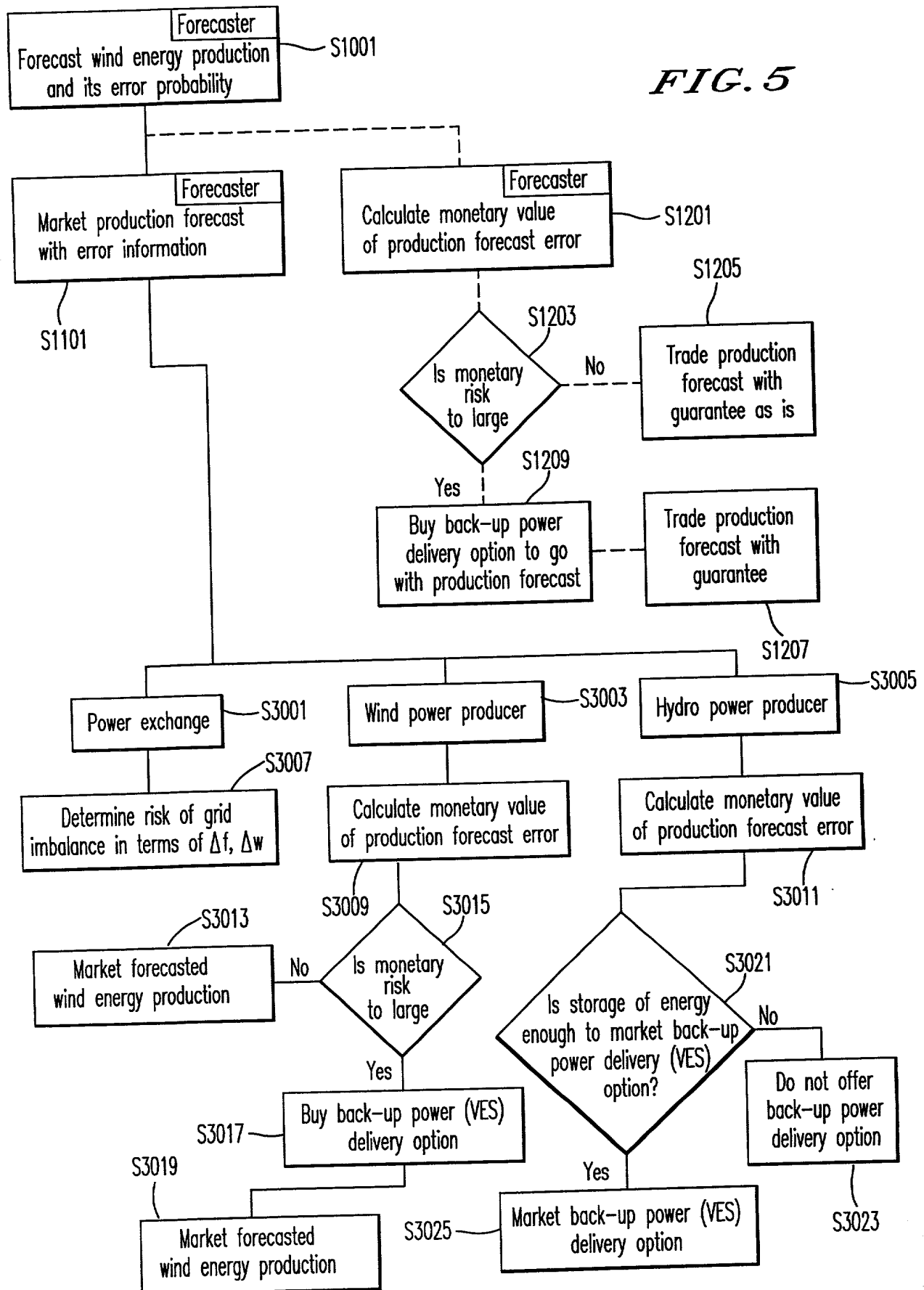


FIG. 4

FIG. 5



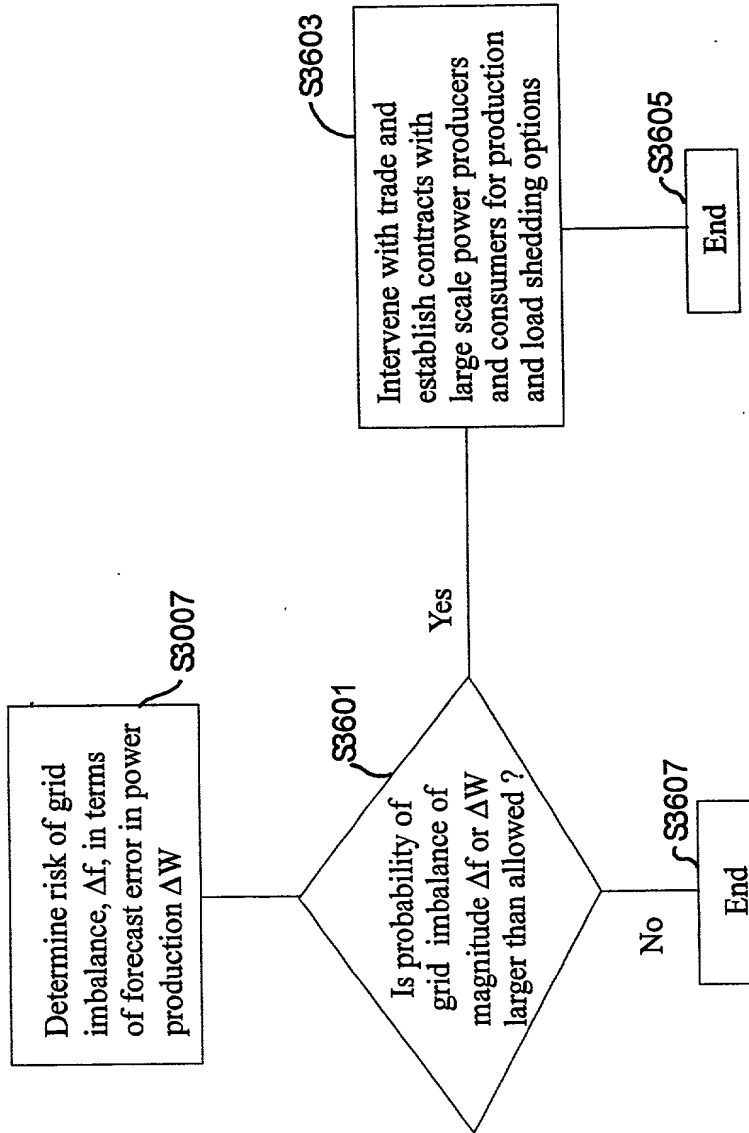


FIG. 6

FIG. 6

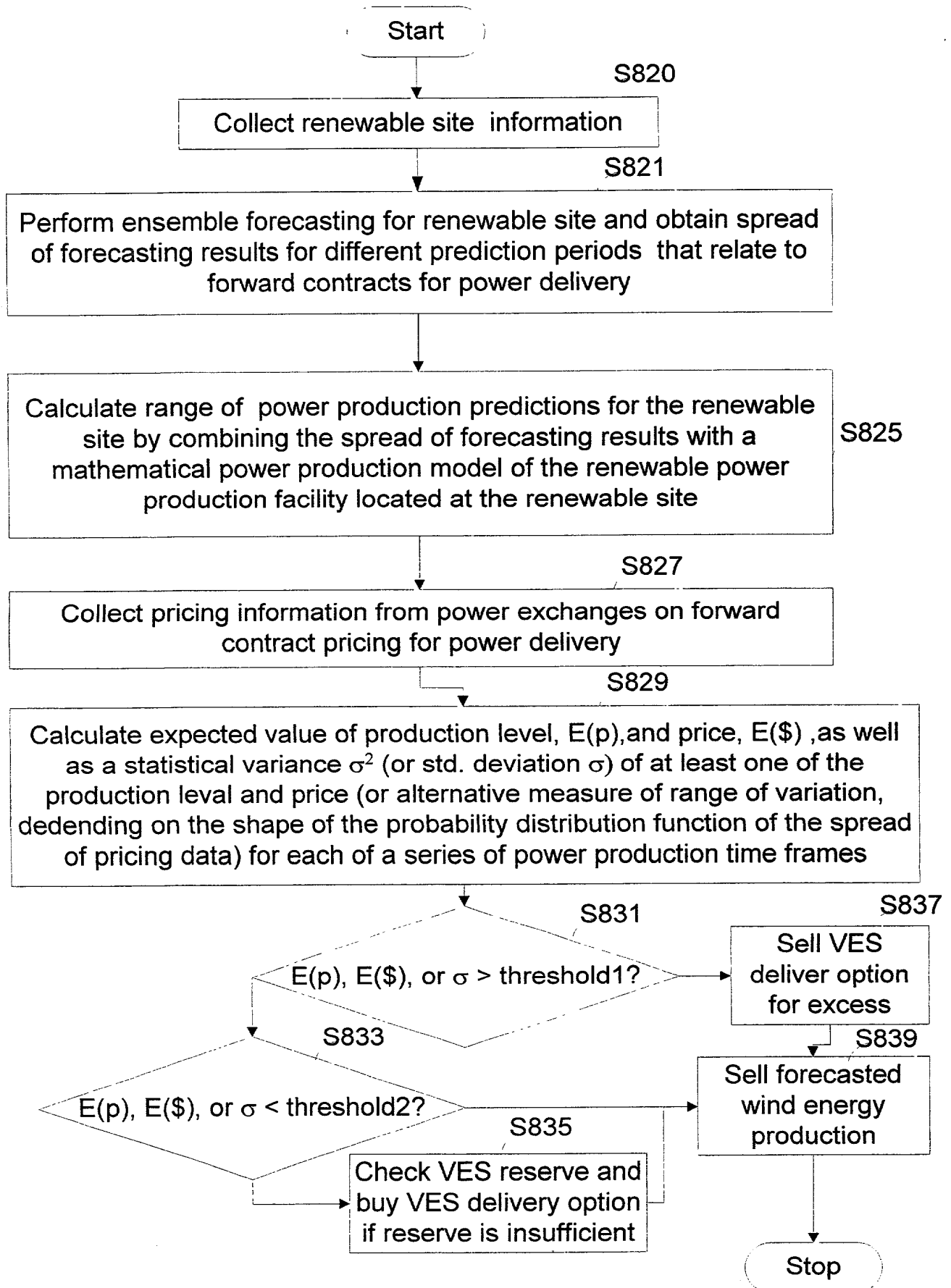


Figure 7

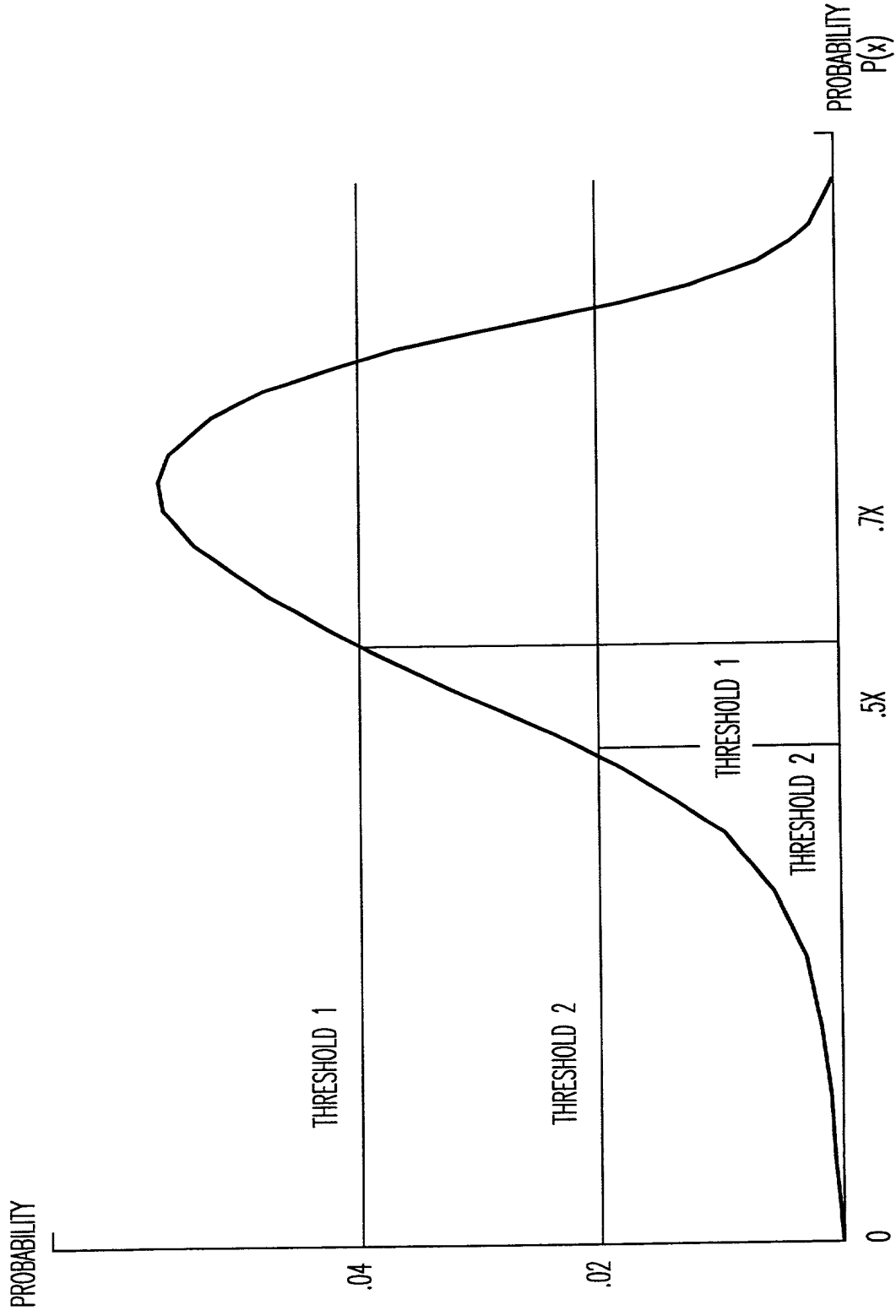


FIG. 8

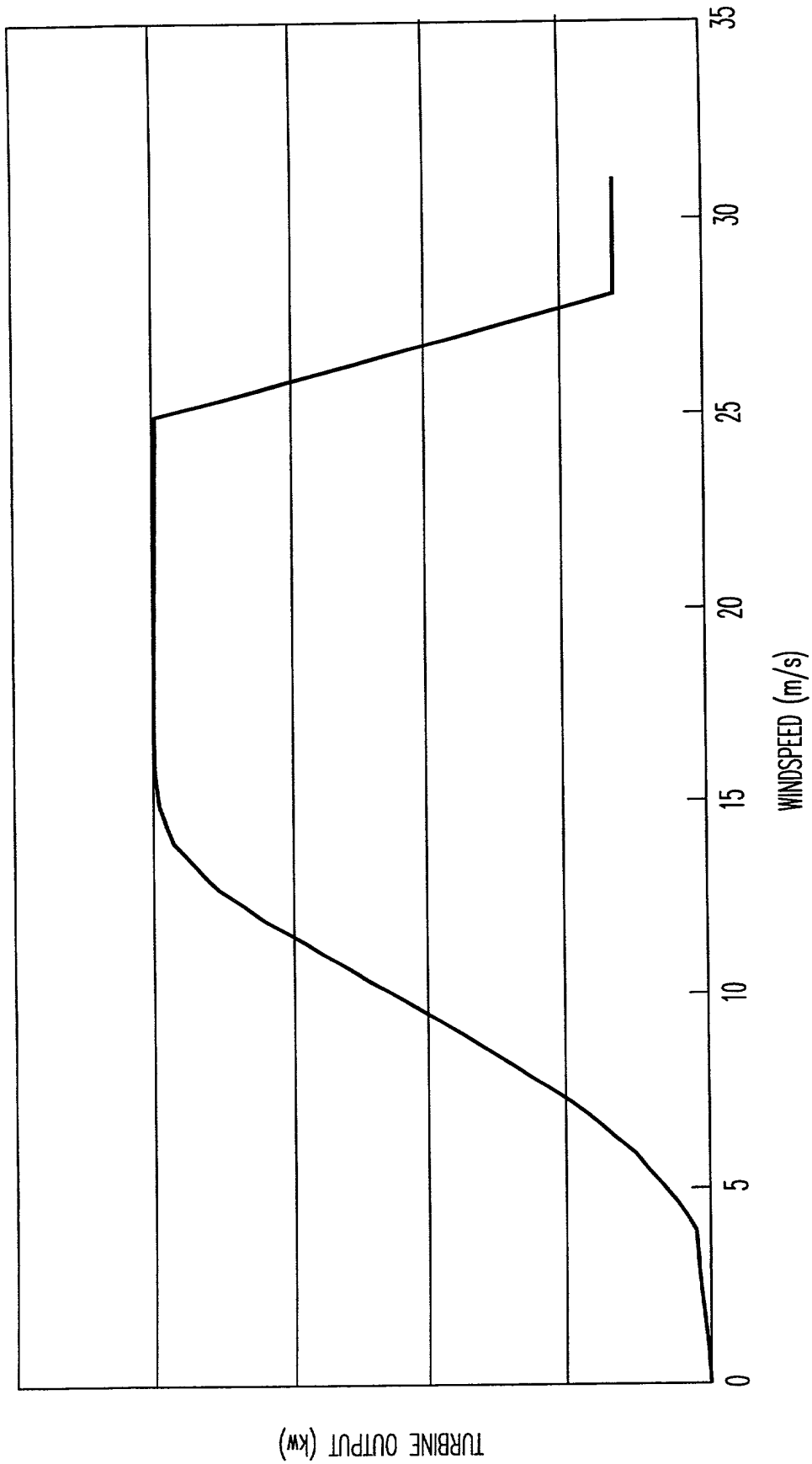
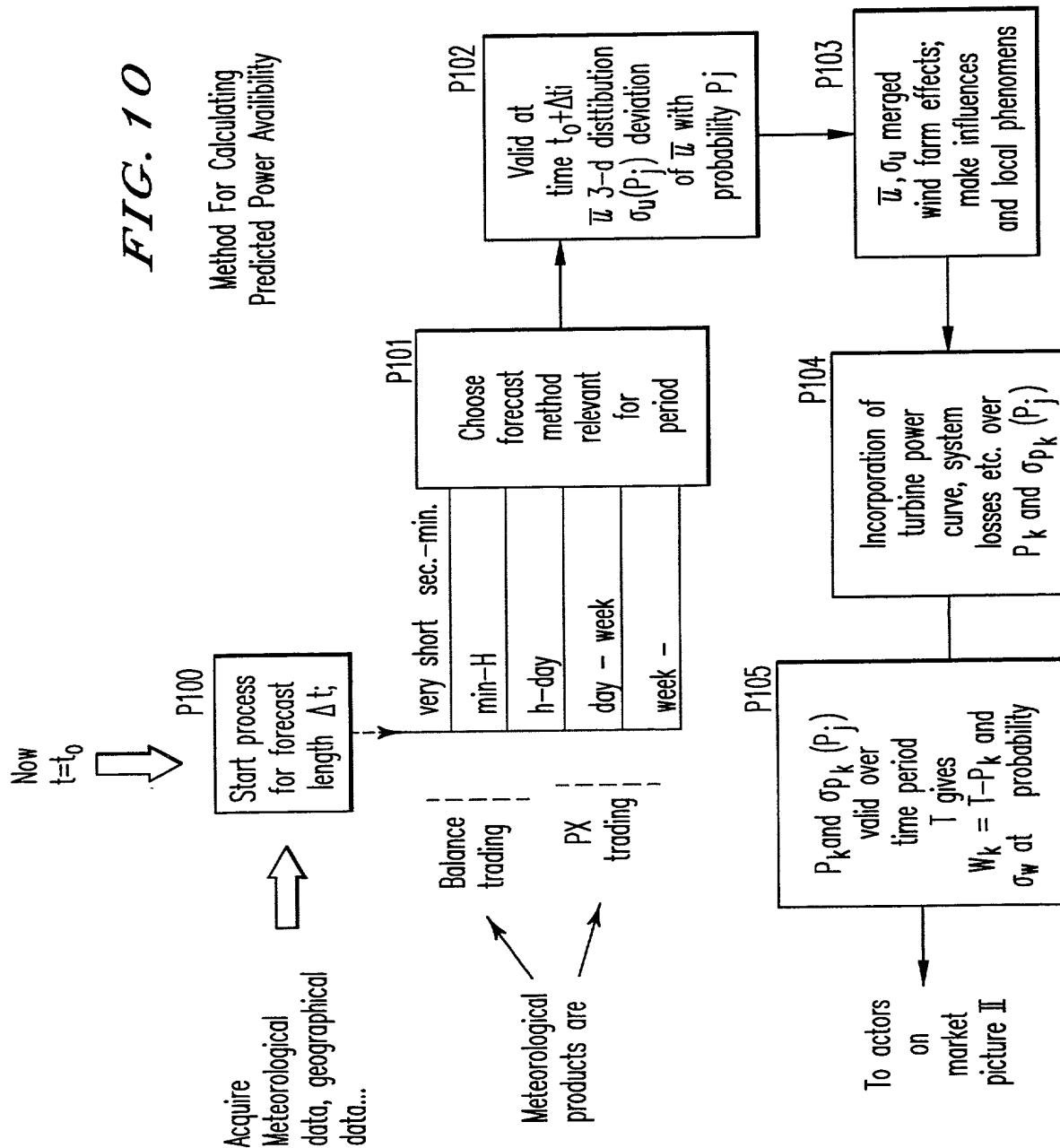


FIG. 9

total sheet

FIG. 10



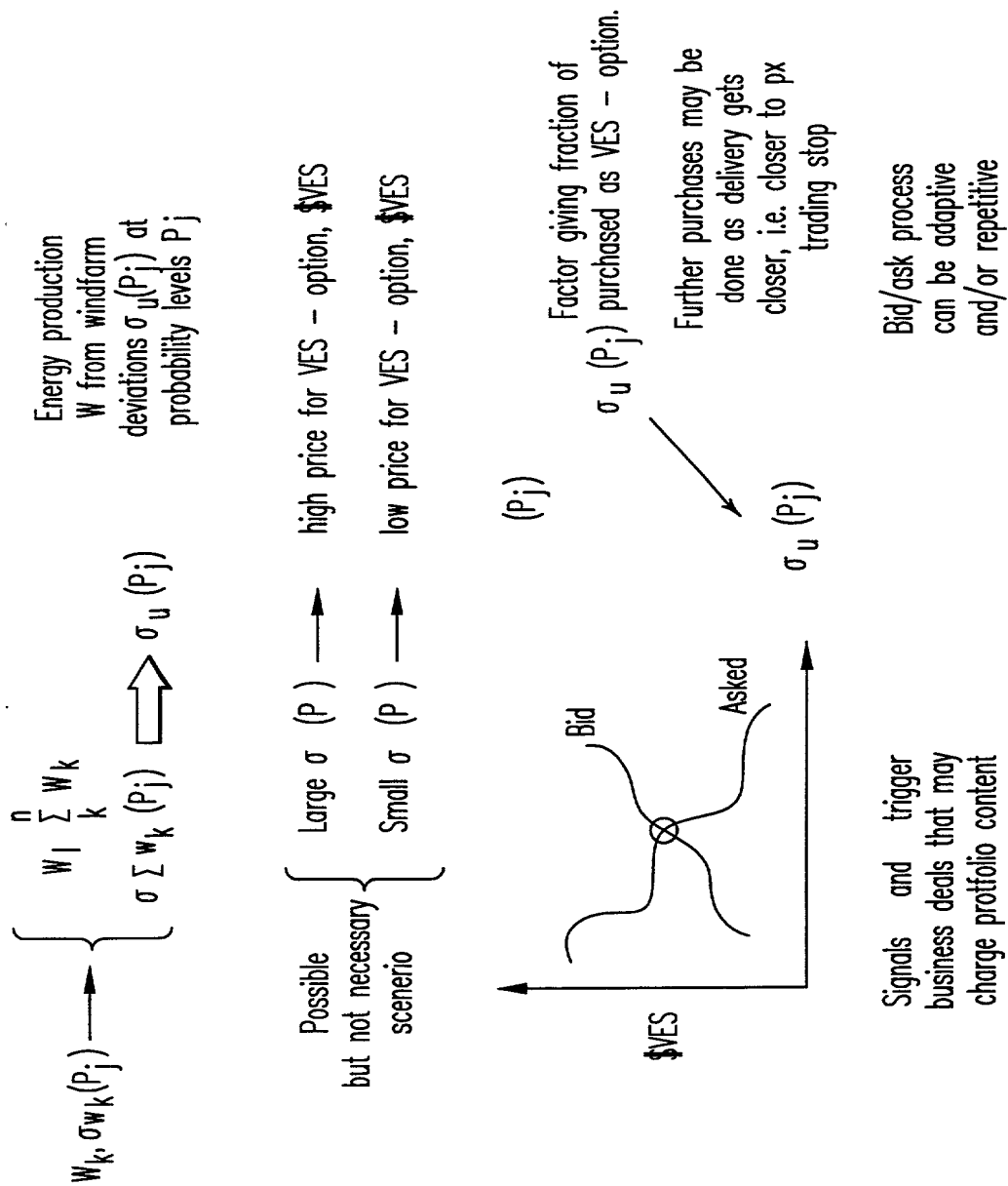


FIG. 11

Relationship of VES pricing
to meteorological forecast
probability values

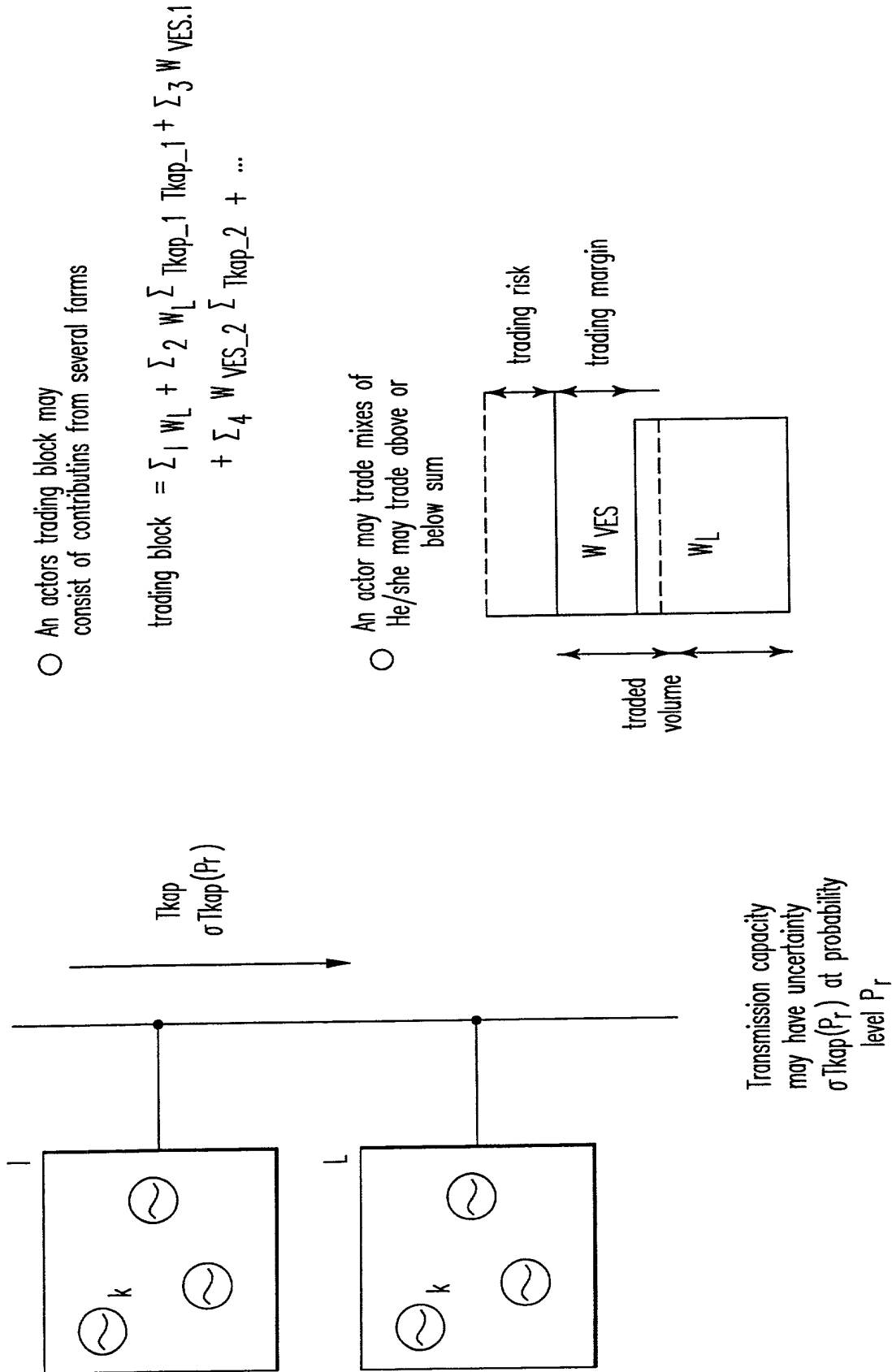
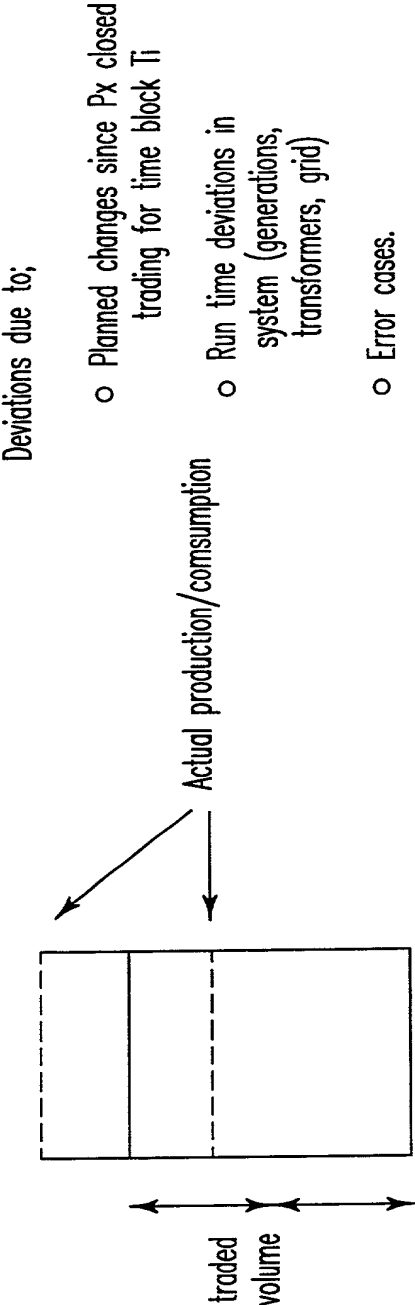


FIG. 12



Deviations dealt with through balance trade and through frequency control by system operator.

Meteorological products for relevant time frames have market value.

FIG. 13

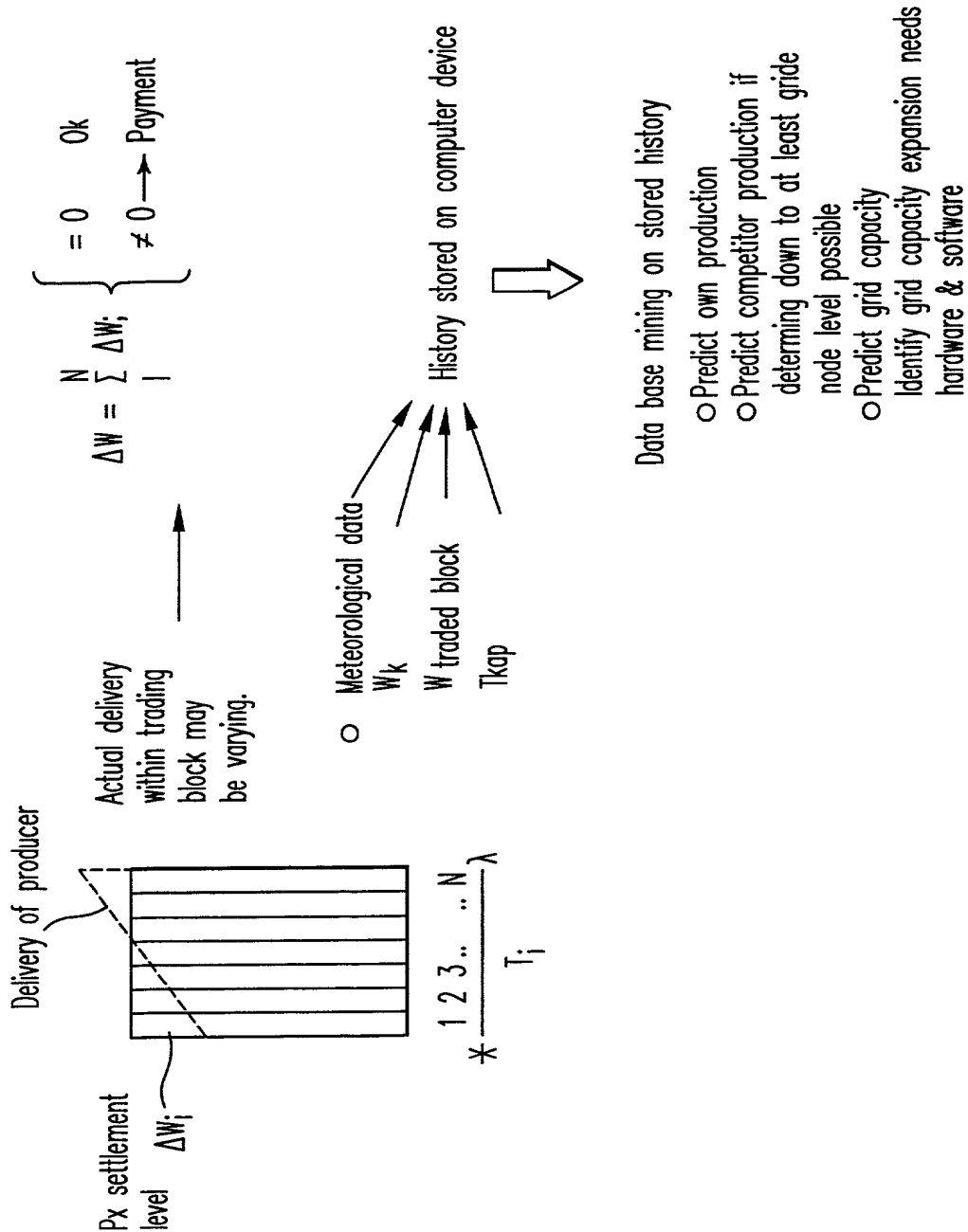


FIG. 14

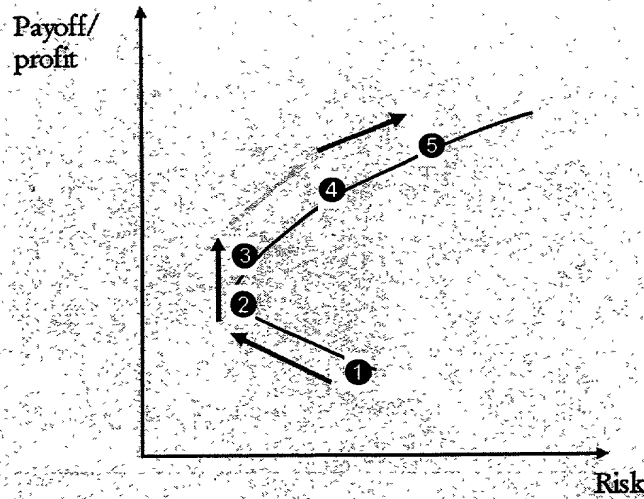
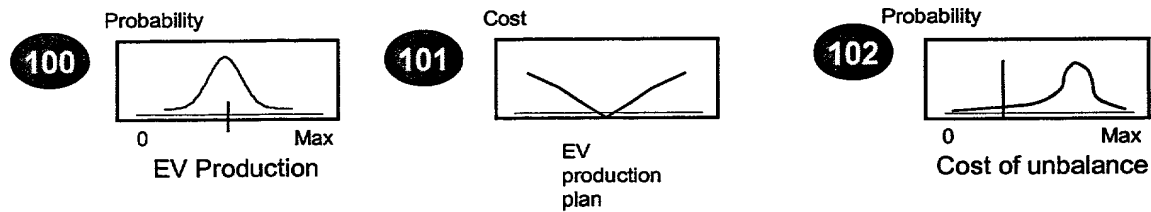


Figure 15

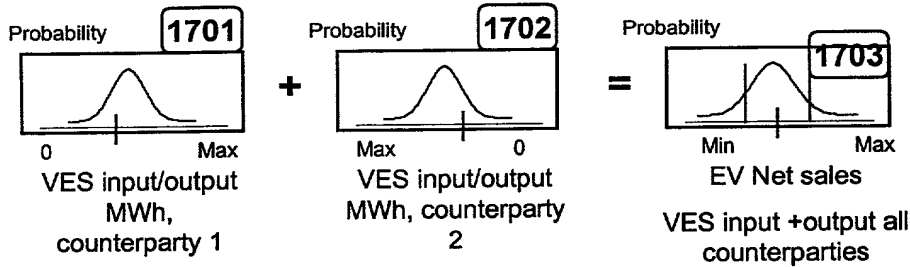


Calculation of WF risks in options and VES

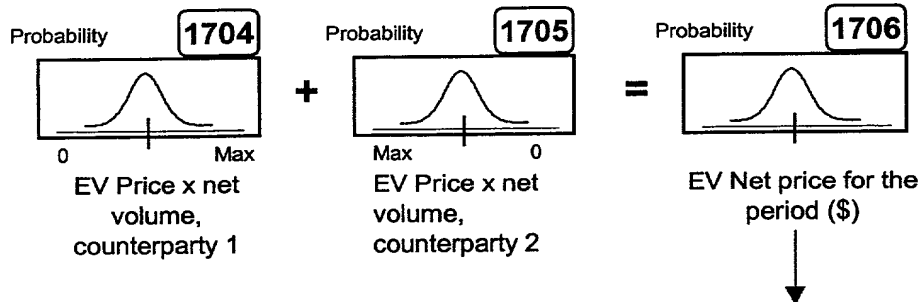
Figure 16

Calculation of Hydro's risks in VES

Volume risk in VES



Price risk in VES



The pdf for net price for each period is discounted to present value and summed to a total uncertainty

Risk of non optimal usage of hydro storage, due to spill of water and selling on non-preferred hours

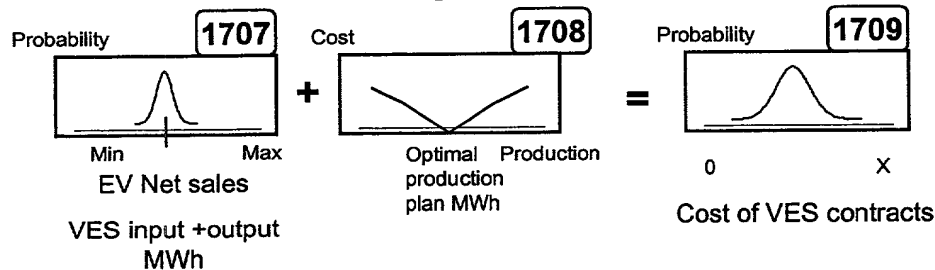


Figure 17

PX PX options market

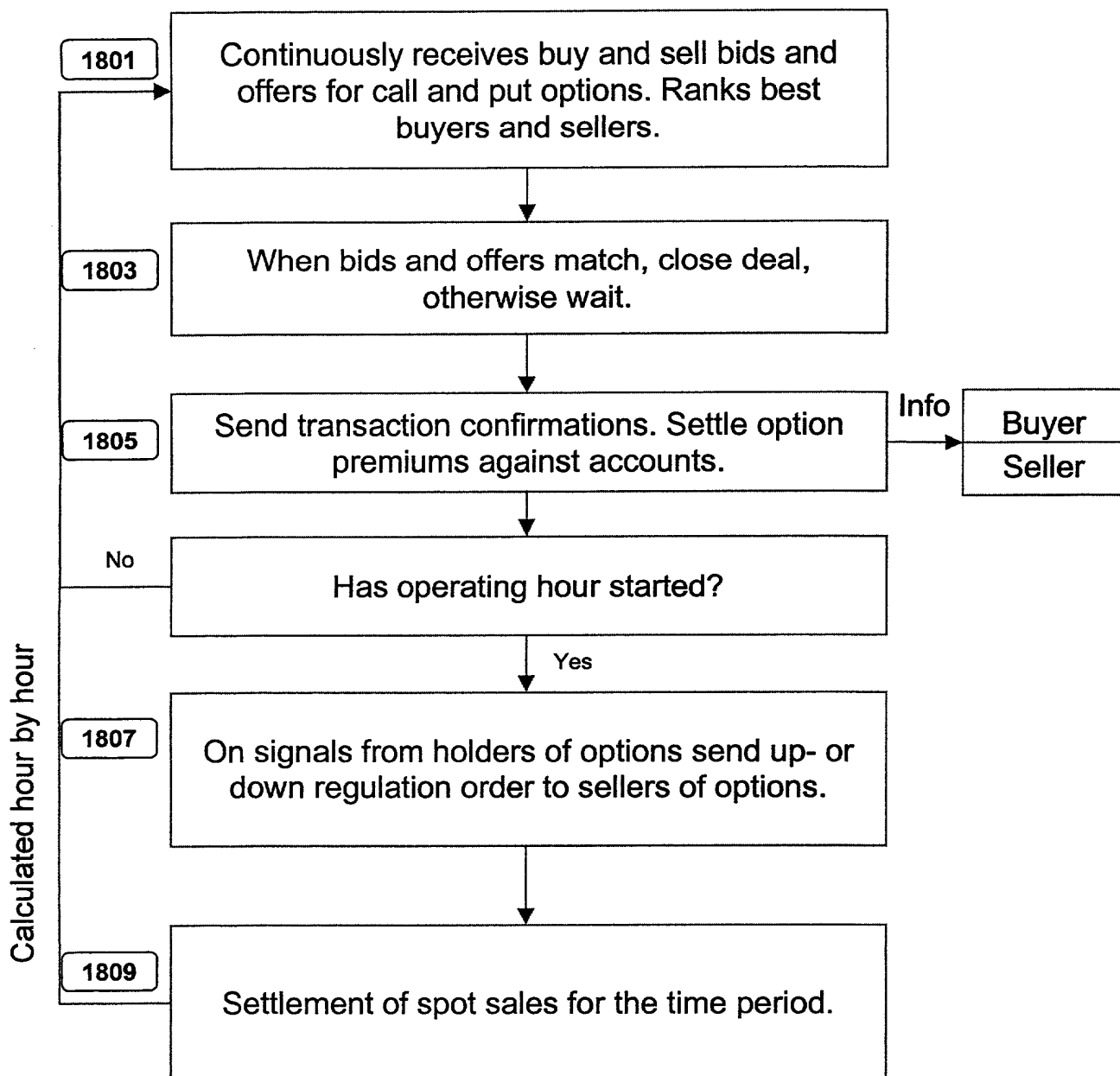


Figure 18

PX Bilateral options market

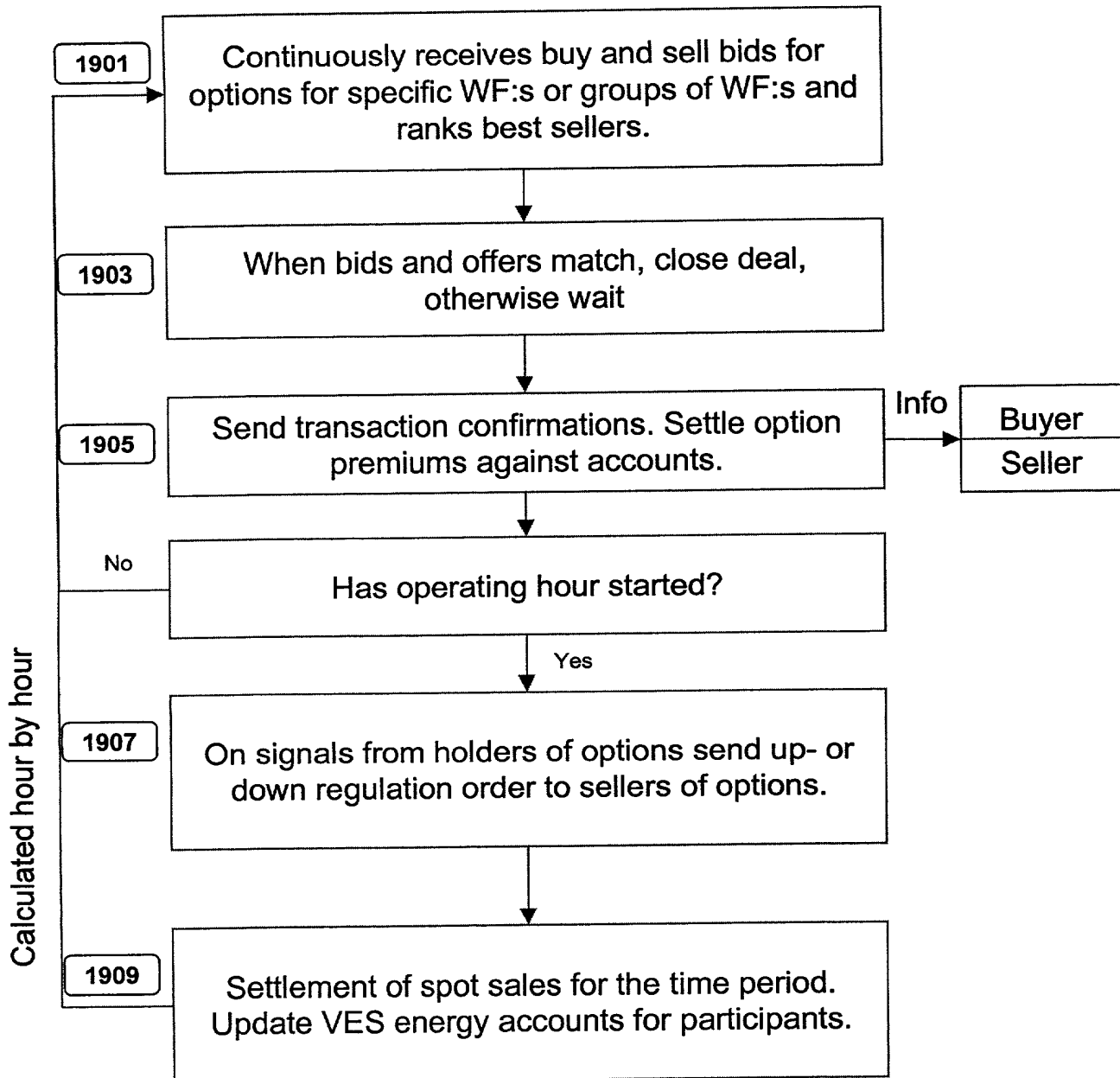
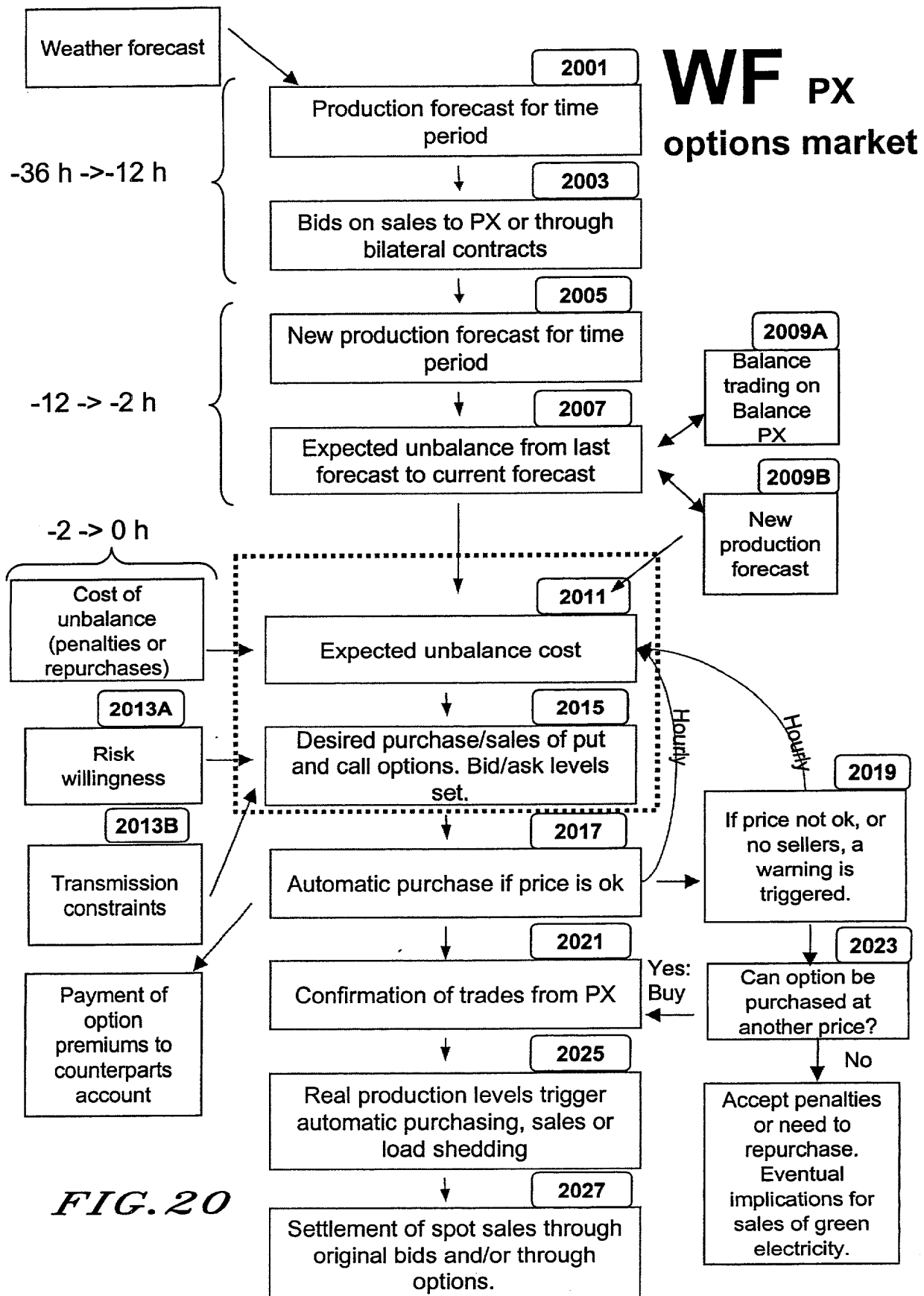


Figure 19



WF Bilateral options market

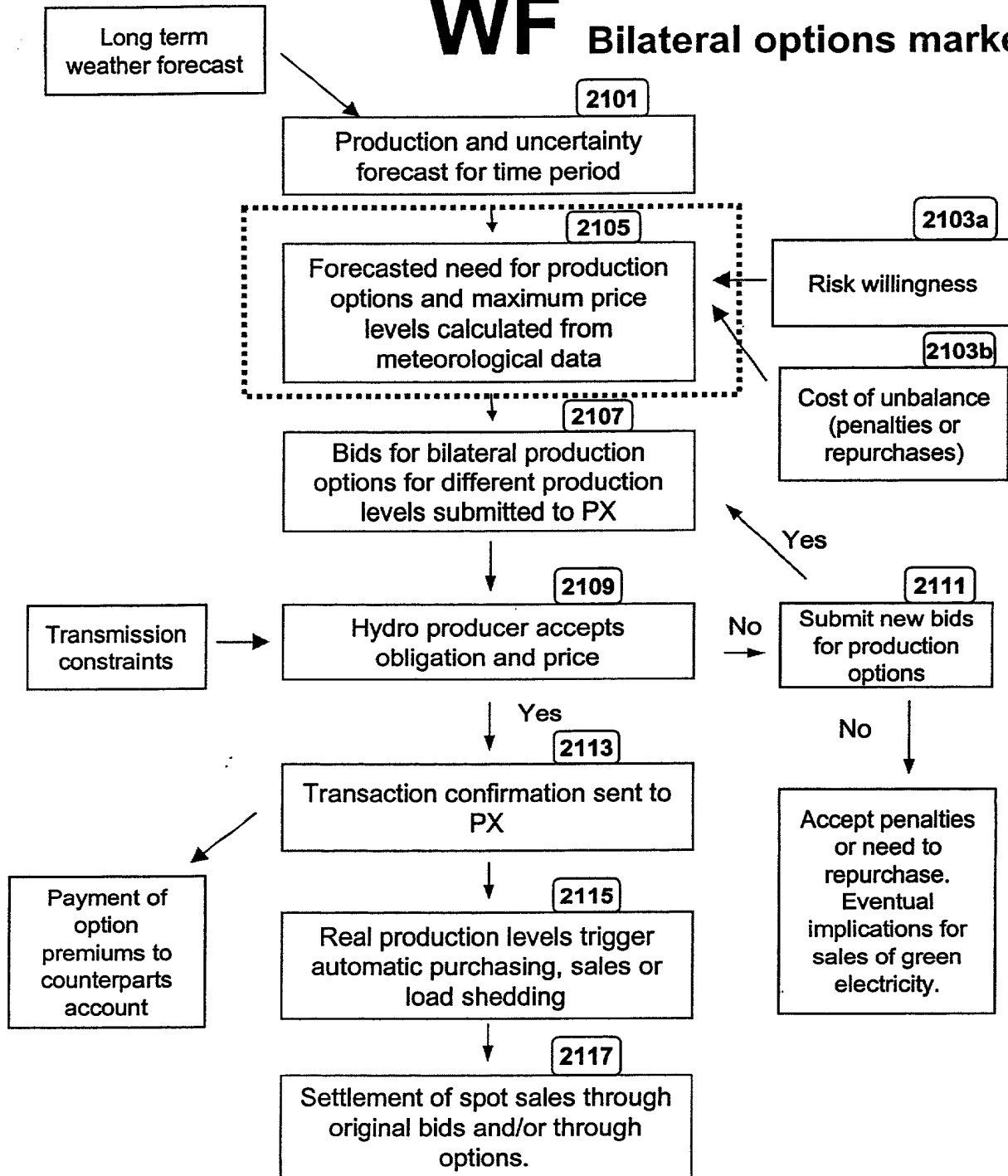


FIG. 21

Hydro PX options market



Hydro Bilateral options market

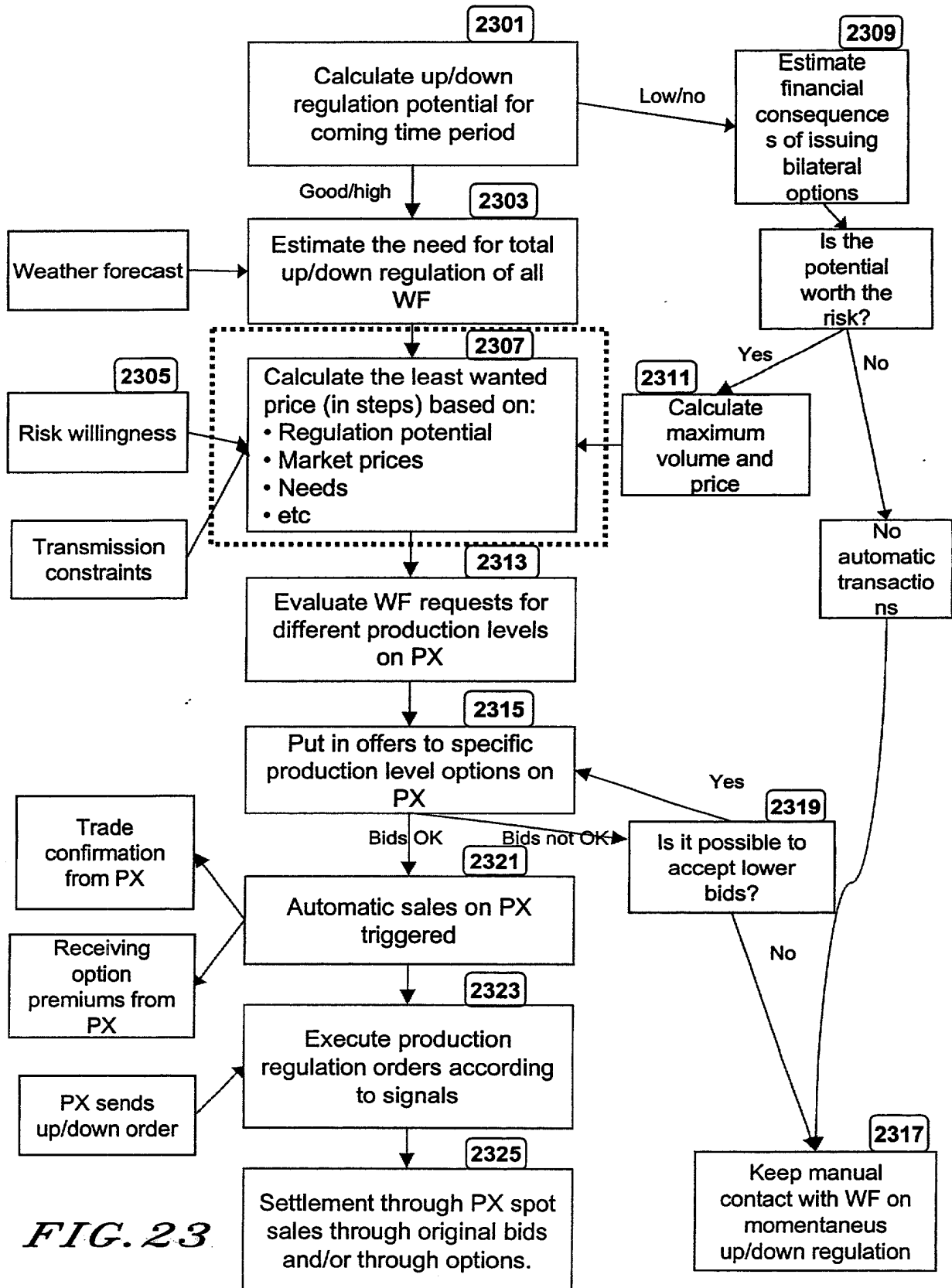


FIG. 23